

WHAT IS CLAIMED IS:

1. A method of synthesizing speech using discourse function level prosodic features comprising the steps of:
  - 5 determining output information;
  - determining discourse functions in the output information;
  - determining a model of discourse function level prosodic features; and
  - determining adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features.
- 10 2. The method of claim 1, wherein the discourse functions are determined based on a theory of discourse analysis.
- 15 3. The method of claim 2, in which the theory of discourse analysis is at least one of: the Linguistic Discourse Model, the Unified Linguistic Discourse Model, Rhetorical Structures Theory, Discourse Structure Theory and Structured Discourse Representation Theory.
4. The method of claim 1, wherein the output information is at least one of text information and application output information.
5. The method of claim 1, wherein determining the adjusted synthesized speech output further comprises the steps of:
  - 20 determining a synthesized speech output based on the output information;
  - determining discourse function level prosodic feature adjustments; and
  - determining adjusted synthesized speech output based on the synthesized speech output and the discourse level prosodic feature adjustments.
- 25 6. The system of claim 1, wherein the model of discourse function level prosodic features is a predictive model of discourse functions.
7. The method of claim 6, in which the predictive models are determined based on at least one of: machine learning and rules.
- 30 8. The method of claim 1, in which the prosodic features occur in at least one of a location: preceding, within and following the associated discourse function.
9. The method of claim 1, in which the prosodic features are encoded within a prosodic feature vector.

10. The method of claim 9, in which the prosodic feature vector is a multimodal feature vector.
11. The method of claim 1, in which the discourse function is an intra-sentential discourse function.
- 5 12. The method of claim 1, in which the discourse function is an inter-sentential discourse function.
13. A method of synthesizing speech using discourse function level prosodic features comprising the steps of:
  - determining output information;
  - 10 determining discourse functions in the output information based on a contextually aware theory of discourse analysis;
  - determining a model of discourse function level prosodic features; and
  - determining adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features.
- 15 14. The method of claim 13, in which the context is at least one of: semantic, pragmatic, and syntactic context.
15. A system for synthesizing speech using discourse function level prosodic features comprising:
  - an input/output circuit for retrieving output information;
  - 20 a processor that determines discourse functions in the output information; determines a model of discourse function level prosodic features; and which determines adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features.
- 25 16. The system of claim 15, wherein the discourse functions are determined based on a theory of discourse analysis.
17. The system of claim 16, in which the theory of discourse analysis is at least one of: the Linguistic Discourse Model, the Unified Linguistic Discourse Model, Rhetorical Structures Theory, Discourse Structure Theory and Structured Discourse Representation Theory.
- 30 18. The system of claim 15, wherein the output information is at least one of text information and application output information.

19. The system of claim 15, wherein the processor determines a synthesized speech output based on the output information; determines discourse function level prosodic feature adjustments; and determines adjusted synthesized speech output based on the synthesized speech output and the discourse level prosodic feature adjustments.

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20. The system of claim 15, wherein the model of discourse function level prosodic features is a predictive model of discourse functions.

21. The system of claim 20, in which the predictive models are determined based on at least one of: machine learning and rules.

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22. The system of claim 15, in which the prosodic features occur in at least one of a location: preceding, within and following the associated discourse function.

23. The system of claim 15, in which the prosodic features are encoded within a prosodic feature vector.

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24. The system of claim 23, in which the prosodic feature vector is a multimodal feature vector.

25. The system of claim 15, in which the discourse function is an intra-sentential discourse function.

26. The system of claim 15, in which the discourse function is an inter-sentential discourse function.

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27. A system for synthesizing speech using discourse function level prosodic features comprising:

an input/output circuit for retrieving output information;

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a processor that determines discourse functions in the output information based on a context aware theory of discourse analysis; determines a model of discourse function level prosodic features; and which determines adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features.

28. The system of claim 27, in which the context is at least one of:

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semantic, pragmatic, and syntactic context.

29. A carrier wave encoded to transmit a control program, useable to

program a computer to synthesize speech using discourse level prosodic features, to a device for executing the program, the control program comprising:

- 5                   instructions for determining output information;
- instructions for determining discourse functions in the output information;
- instructions for determining a model of discourse function level prosodic features; and
- instructions for determining adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features.

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30.    Computer readable storage medium comprising: computer readable program code embodied on the computer readable storage medium, the computer readable program code usable to program a computer to synthesize speech using discourse level prosodic features comprising the steps of:

- 15                   determining output information;
- determining discourse functions in the output information;
- determining a model of discourse function level prosodic features; and
- determining adjusted synthesized speech output based on the discourse functions and the model of discourse function level prosodic features.

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